ANNEX

The Cathedral of Commerce

Woolworth Building New York

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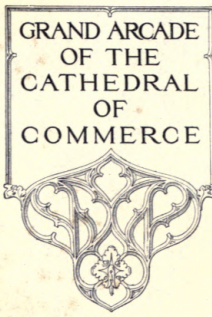
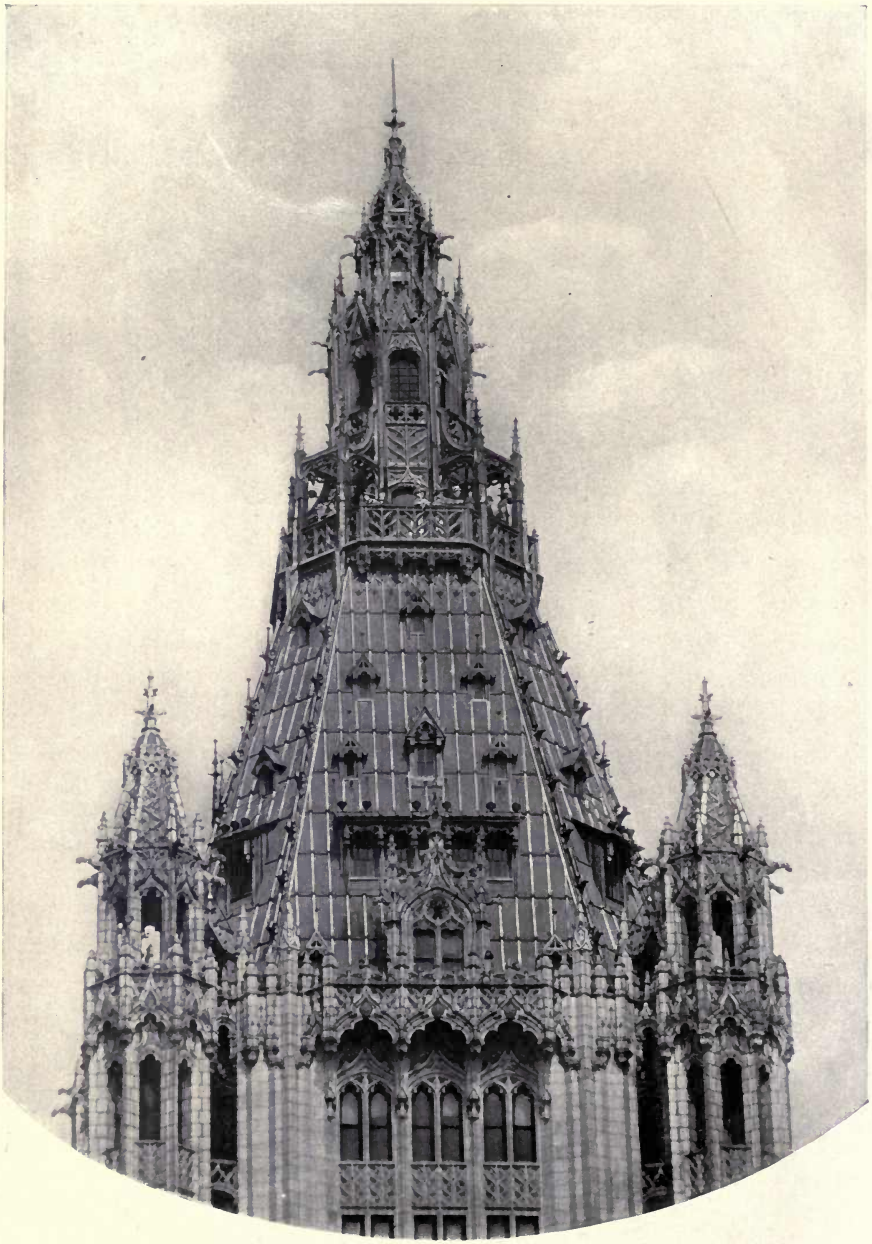


From a painting in natural colors over a photograph made by E. K. Carter New York

The Cathedral of Commerce

MCMXVIII



A TELE-PHOTO VIEW OF THE OBSERVATION GALLERY

ILLUSTRATIONS, EXCEPTING TWO, MADE FROM PHOTOGRAPHS BY J. C. MAUGANS, NEW YORK

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FOREWORD

S. PARKES CADMAN, D. D., S.T. D., L.H. D.

THE man who proposes and the architect who designs a truly great building confer a lasting favor on the race at large. Our indebtedness to those who constructed the Parthenon, the Coliseum at Rome, St. Peter's Cathedral in that city, St. Paul's in London, St. Mark's in Venice and the pure Gothic of St. Chapelle and Notre Dame in Paris, is utterly beyond ordinary methods of computation. These monuments of rare beauty, devotion and civic pride far outlast other achievements of their respective periods. Their true value is not in stone nor in gold but in the spiritual aspirations which they embodied and expressed. Brute material has been robbed of its density and flung into the sky to challenge its loveliness.

Just as religion monopolized art and architecture during the Medieval epoch, so commerce has engrossed the United States since 1865. The close of the Civil War released the pent-up powers of a young nation, occupying a virgin soil, with the consequences we now witness. Multitudes flocked to our shores, trade increased by leaps and bounds, railways linked East and West in a continental expanse, cities throve apace. Out of the struggles of this process, not without its pulsive and sordid features, have been developed gratifying benefits. The prairies of Illinois, Indiana, Iowa and the Dakotas have become the granaries of the earth. The mineral treasures of Pennsylvania, Georgia and the States located among the foothills of the Rocky Mountains have been mined and placed at the disposal of nations. These and many other enrichments of human life and intercourse received their

visible tokens in the steady advancement of general prosperity and welfare. Their metropolitan and financial centers were found in New York. Here, on the Island of Manhattan, and at its southerly extremity, stands a succession of buildings without precedent or peer. The vision of their grandiose effect from the Brooklyn Bridge at dusk, when the gathering darkness softens their bold outlines, and every one of the numberless windows coruscates with radiance, is beyond the brush of Turner to paint or the eloquence of Ruskin to describe. It outvies imagination in its most fertile moments. Of these buildings the Woolworth is Queen, acknowledged as premier by all lovers of the city and the commonwealth, by critics from near and far, by those who aspire toward perfection, and by those who use visible things to attain it. When seen at nightfall bathed in electric light as with a garment, or in the lucid air of a summer morning, piercing space like a battlement of the paradise of God which St. John beheld, it inspires feelings too deep even for tears. The writer looked upon it and at once cried out, "The Cathedral of Commerce"---the chosen habitation of that spirit in man which, through means of change and barter, binds alien people into unity and peace, and reduces the hazards of war and bloodshed. Such is its testimony due to Frank W. Woolworth, whose magnitude of mind originated the scheme, and to Cass Gilbert, whose genius executed it to the last detail. To these men, America pays a lasting tribute, and their accomplishment will remain at the heart of the world of trade, a lofty example of the best possibilities in human nature, even when engaged in mercantile pursuits.

THE CATHEDRAL OF COMMERCE

EDWIN A. COCHRAN

ON the night of April 24, 1913, President Wilson pressed a tiny button in the White House and 80,000 brilliant lights instantly flashed throughout the Woolworth Building. The event marked the completion, the dedication and the formal opening of that regal edifice, the tallest and most beautiful building in all the world erected to commerce, so judged by the officials of the Panama-Pacific Exposition when they placed their seal of approval upon it and awarded it a gold medal. It was a memorable night. A profusion of light filled the twenty-seventh floor, which had been arranged for a superb banquet. And assembled there, was a great host of statesmen, captains of industry, merchants, journalists, scholars, poets—all representative Americans, proud to break bread with, and honor the man who had realized his dream and the gallant aides who tirelessly had labored with him to accomplish the stupendous task, the upbuilding of a monument to small things.

Yes, as a commercial institution the Woolworth Building is preeminent. Within its walls are housed great banking institutions, the executive and clerical staffs of giant industries, the New York representatives of America's big business enterprises and a great many leaders in the professions. Its tenants, with their employees, number 12,000 people—the population of a city—and only tenants of the highest standard are accepted. The Building could have been filled twice over had not Mr. Woolworth been so strict about the responsibility and personal integrity of every lessee. Altogether, these tenants rank among our country's most prosperous, most progressive and most reputable business and professional men.

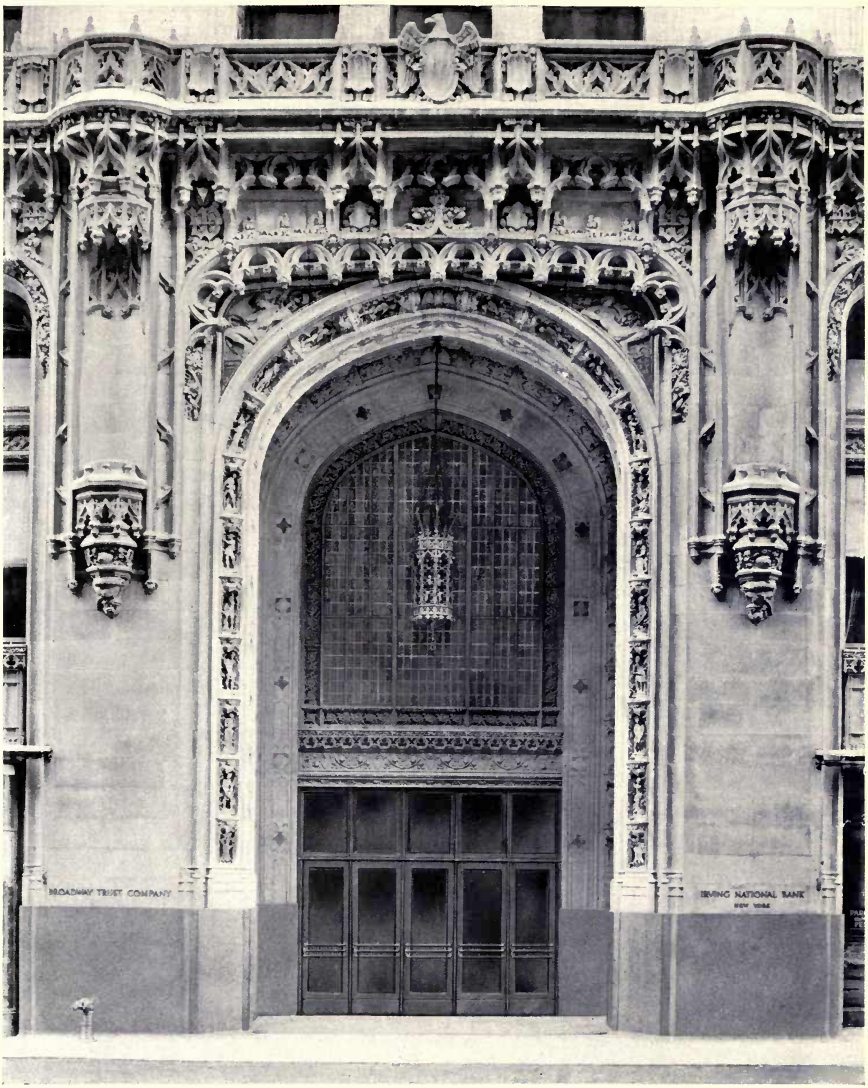
Doctor Cadman, the noted divine, has called this Building "The Cathedral of Commerce," a term which fittingly describes it. It stands in magnificent splendor, a masterpiece of art and architecture, a Glorious Whole, quite beyond the power of human imagination. The true Gothic lines and tracery of the exterior are extremely impressive, and the proportions have been executed with such studious care and fidelity to detail that its enormous height is not realized from the street; yet it is by far the tallest building in the world, rising 792 feet 1 inch above the sidewalk, its summit piercing the heavens. The recessive Tower, gradually diminishing from base to pinnacle and appearing

always in new lights and colors, forms a fascinating picture from every viewpoint, as it stands silhouetted against the sky.

Its location, too, is of supreme importance. It is in the very heart of things —the civic center of the world's great metropolis, in the midst of all transportation lines. It faces upon three streets and has nine entrances, including two direct communications with the subway system. It is within a stone's throw of City Hall, the Municipal Building, Brooklyn Bridge, the Post Office and Courts, as well as close by the great financial and banking center. No building could command a better location or one more advantageous to its tenants.

From the Observation Gallery, fifty-eight stories above the street, the view is marvelous, and the thrilling sensation which comes over the sightseer is never to be forgotten. It is indeed the most remarkable if not the most wonderful view in all the world. The scenic and color effects, with the sun shining on the multi-colored buildings around it, but far below, and on the water and land for twenty-five miles in every direction, make a landscape impossible of adequate description. The vast area spread out before the visitor's eye is inhabited by more than 8,000,000 souls. To the north lies the great City, with the Hudson River and the lordly Highlands beyond. To the east are Long Island and the mighty Atlantic Ocean, with its ships passing to and fro far distant on the horizon where sky and water seem to meet. To the south are the great Harbor of New York, the Narrows through which pass all ships entering and leaving the Port of New York, Governor's Island, the Statue of Liberty, and Staten Island in the distance. To the west again is seen the Hudson River and the great expanses of meadow-land and mountainous country embracing Eastern New Jersey. Looking downward, the multitudes of people scurrying about the busy streets in close proximity to the Woolworth Building resemble an aggregation of pygmies—a crowd seen through the large end of a telescope. The view is bewildering. Every year upwards of 100,000 visitors from all parts of the world come here and the Register shows that these good people represent more than sixty different countries and thousands of cities.

Another marvel of this Building is the exterior illumination of its Tower by night, extending from the thirty-first to the sixtieth story, a distance of nearly 400 feet. The Tower is illuminated by a gigantic flood of light directed upon it from specially designed nitrogen lamps of great candle-power set in mirrored glass reflectors to give maximum reflective value. Nearly 20,000,000 candle-power of light is thus transmitted to the ornamental terra-cotta of the whole Tower, making it stand out boldly and majestically like a shaft of glistening alabaster against the blackness of the night. The color effects are brilliantly wonderful. The light, soft and mellow at its base, gradually increases in intensity as it reaches upward and, at the very top, the pinnacle, an immense ball of fire appears, giving the effect of a gorgeous jewel resplendent in its setting of rich gold. This light may be seen by mariners forty miles at sea. The varied colors of terra-cotta and the superb lines and tracery, abounding in the outer walls of the Tower, are brought out in simple elegance by this



Broadway Entrance to
The Cathedral of Commerce

dazzling illumination, which is acknowledged to be the greatest triumph in flood-lighting ever achieved.

The wonders of the Woolworth Building are not confined to its exterior, for within will be found a wealth of things intensely interesting, and first among these should be mentioned the grand corridor with its tall, perfect lines rising and sweeping into graceful curves and arches. The marble, with its warm, golden, evenly matched colors of varied hues forming the corridor walls, was quarried on the Isle of Skyros off the coast of Greece, from the choicest of costly marbles obtainable there. It is richly carved in pure Gothic design, and blends perfectly with the magnificently decorated dome-ceiling. This ceiling is a masterpiece of glass mosaic, and its rare beauty is accentuated by the soft glow of artificial light concealed behind the lace-like marble cornice at the springing of the arches. It suggests a flood of dazzling jewels glittering in the sunlight—emeralds, rubies, sapphires, diamonds—a riot of harmonious colors, all spread out in golden settings, and arranged in exquisite designs. The whole effect is one of grandeur with which the corridor of no other building in the world may be compared; and it is, indeed, an appropriate entrance to this regal structure, "The Cathedral of Commerce."

In the sub-basement is located the power plant which generates the electricity needed to operate the elevators and to furnish light and ventilation for the entire Building. This plant is complete in its make-up, and the four mighty engines and dynamos, operating day and night—never idle from one year to another—are wondrous pieces of machinery, the most efficient known to engineering science. The plant has a total capacity of 1,500 kilowatts, and consists of two 500 kilowatt units, one 300 kilowatt unit, and one 200 kilowatt unit. These units are of varying size, so as to afford maximum operating economy, according to the varying electrical load at different hours of the day. The engines are of the tandem-compound low-speed Corliss type, moving at one hundred revolutions per minute, and are capable of generating sufficient power to operate an electric street railway or supply electric light for a city of 50,000 inhabitants. The Engine Room itself is especially attractive with walls and floor of white tile and ceiling of white enamel, always spotless in appearance. Here, too, will be found an elaborate ventilating plant made up of sixteen large motors with fresh air and exhaust ducts, designed to furnish a complete change of air in the three stories underground and the first four above four times in every hour. The air is drawn down from outside the Building above the fifth floor, passed through fine sieves and then through a curtain of constantly running water, where it is cleansed and afterwards distributed to the tenants free of impurity. During summer months, this air is cooled to a proper temperature by refrigeration, and in winter it is warmed by passing through heated pipes. A water filtration plant and a refrigerating plant also form part of the vast mechanical equipment required for the exacting needs of the Building's tenants.

The boiler plant consists of six mammoth boilers having a total capacity of about 2,500 horse-power. These boilers are operated at high pressure and

LOOKING EAST FROM THE HUDSON RIVER

LOWER MANHATTAN BY NIGHT
FROM THE OBSERVATION GALLERY OF THE WOOLWORTH BUILDING

except during a few weeks of unusually cold weather in mid-winter the entire Building is heated by exhaust steam from the engines and pumps. Some idea may be formed of the enormous quantity of coal consumed by these boilers from the fact that the Building's coal bunkers contain over 2,000 tons of coal, which is replaced as used by cargo shipments direct from the anthracite fields of Pennsylvania. An immense Swimming Pool and Turkish Bath establishment, open day and night, is also located in the sub-basement, and here will be found every modern device making for comfort, safety and sanitation.

The Woolworth Building Safe Deposit Co. has its vaults in the basement. This, too, is a thoroughly up-to-date institution, where courteous, efficient attendants show hundreds of persons to their strong boxes every business day. No expense has been spared to make it a safe place for the keeping of valuables. Another interesting place in the basement is the beautiful restaurant called "The Postkeller"—one of the City's show-places. The food and service here are of the very best, and it is noted for its cleanliness. There is also a large, finely equipped Barber Shop in the basement where the appointments are unexcelled and the service first class in every particular.

The Irving National Bank and the Broadway Trust Company, nationally known institutions, occupy spacious quarters on one of the main floors, and provide every modern banking facility for the convenience of customers. In the Irving National Bank each department is as convenient to the customer as the single window in the smallest country bank. The final humanizing touch has been given to the Tellers' Department: Each teller both pays and receives, so that customers always transact business with the same teller whether depositing or withdrawing funds. Personal contact between the customers and officers is encouraged by the special design of the Bank's quarters; all officers are within easy reach. The Broadway Trust Company conducts its business along similar lines, personal service being dominant in both institutions.

Perhaps the most difficult problem in a structure as tall as the Woolworth Building is the question of elevators. The Building's success depends largely upon the adequacy, safety and regularity of the elevator service. The architectural design of the Building, together with the peculiarities and difficulties of its structural steelwork, to a very great extent govern the number, arrangement and grouping of elevators. This important feature has been carefully studied, and as a result, twenty-nine high-speed electric traction elevators afford excellent service throughout the twenty-four hours of each day, every day in the year, Sundays and holidays included. These elevators travel on a headway of twenty-five to thirty-five seconds during business hours, which means that a car is available to carry passengers up or down from any floor about every half-minute, and this service is faithfully maintained. In order to get tenants, their employees and clients to and from the offices with the least possible delay, many of the elevators are operated at a speed greater than that maintained in any other building, yet they travel so smoothly and noiselessly that their movements are scarcely observed.

TOWER AND UPPER PORTION
OF MAIN BUILDING

SECTION OF TOWER,—FROM
38TH TO 60TH STORY

A VIEW LOOKING
UP BROADWAY

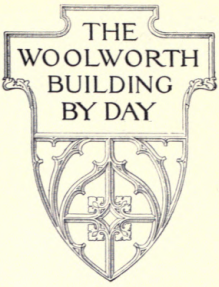
A VIEW FROM THE
SOUTHWEST

The two elevators, which operate from the ground to the fifty-fourth floor, rise 700 feet in one minute, and these are the highest-rise and fastest-traveling elevators in the world. Although elevator service is provided in the Eiffel Tower, Paris, to a height of nearly 1,000 feet, three cars must be used to reach the top, the highest rise of a single one being about 450 feet.

On account of the complex elevator problem and the high speed at which service is maintained, together with the fact that nearly 30,000 people daily travel upon these elevators (more than 9,000,000 a year), particular attention was given to the matter of safety devices. The more important of these are the under-car safety operated by a governor placed overhead; oil buffers placed under each car and counterweight; retarding and latching device at the top of each shaftway; limit switches at the bottom and top of travel; speed governor and potential switches operated by governor; switch attached to safety plank on the under-car safety; emergency wheel and safety switch inside the car itself. Besides these, the gearless traction elevator has the great inherent safety feature because, if either the car or counterweight over-travels, the tractive force is lost, owing to the weight of the car or counterweight being removed from the hoisting cables. There are also many electrical safety devices which form a part of the controlling equipment safeguarding the operation of these elevators.

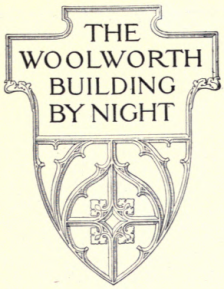
Two additional features of great importance among the safety devices are the emergency exit doors and the interlocking devices on the shaftway doors. The emergency exit doors are so constructed that, in the event of an elevator being accidentally held between floors, passengers may be transferred to an adjoining elevator and carried safely to their destinations without delay or confusion. The interlocking device on the shaftway doors effectively overcomes one of the common causes of elevator accidents, namely, those which occur as passengers enter or alight from elevators. These accidents may usually be charged to the carelessness of the operator in opening the shaftway door before the elevator reaches a full stop or starting the elevator before the door is fully closed. In this Building, elevators cannot be so operated because the interlocking device absolutely prevents an elevator from moving until the shaftway doors are fully closed.

Besides the regular safety devices enumerated above, Mr. Woolworth ordered air cushions for all elevators. These consist of a heavy steel structure enclosing each elevator shaft separately with reinforced concrete placed between I beams. In addition, the interior of the shafts is lined with heavy steel plates, and as a car enters the air-cushion zone and approaches the bottom of travel the air pressure underneath increases. Therefore if all safety devices failed to operate and the car dropped, the air would be so rapidly compressed that it would not have time to escape through the automatic valves or through the clearance space around the elevator; hence, the speed of the latter would be retarded and the car brought gradually to rest at the base of its shaftway without injury or shock to passengers within. To determine the utility of the air cushions, a test was made by loading an elevator with 7,000 pounds of material and dropping it from the forty-fifth floor with


THE
WOOLWORTH
BUILDING
BY DAY

The loftiest and most beautiful building in all the world dedicated to commerce—seen through the great arch of the Municipal Building in the soft glow of early morning sunlight.

At dusk, its gigantic Tower, bathed in electric light of many gorgeous hues, rises high into the heavens like a shaft of fire heralding the approach of night.


THE
WOOLWORTH
BUILDING
BY NIGHT

all safety devices and cables removed. When this elevator reached bottom, its load was unharmed; the vibration being so slight that even a glass of water, which it carried, remained intact.

Daily inspections are made by the Building's maintenance force, not only of this apparatus but of everything else affecting the safety, comfort and welfare of tenants and the general public. To show the extreme caution of these inspectors, a remarkable test was made in the plant of John A. Roebling's Sons Co. with a set of six hoisting cables condemned and taken from an elevator after three years of active service. The one most worn of these cables was placed upon a powerful testing machine to determine the weight it would sustain before pulling apart. It broke only after assuming a burden of 16,600 pounds; hence the total carrying strength of the six condemned cables was at least 99,600 pounds. As the maximum weight of an elevator and its passengers is about 6,000 pounds, it will be seen that these cables were, by actual test, still strong enough to safely handle sixteen times the maximum weight of a loaded elevator.

"Safety first" and *always* is the watchword in the operation of this vertical railway system. While the cars travel at great speed, the maintenance is so closely watched and cared for that they move along almost unnoticed—no quivering, no vibration, no sound whatever, absolute smoothness and safety.

Owing to the arrangement of the elevators, the severe service to which they are subjected, and the variations in the height of travel, it was necessary to provide special means of controlling the operators and the movement of the elevators themselves. A Dispatcher System was therefore devised and used in this Building for the first time. This system consists of a dispatch board and a signal board with electric flashlights to indicate the movement and location of every elevator. The dispatcher absolutely controls the elevators and is prepared, by means of telephonic communication, to pass instructions to the operators when necessary, regardless of whether the elevators are in motion or at rest, so as to correct immediately any irregularities in the service. Incidentally, the telephone in each elevator, while primarily a part of an interior system designed to bring about the greatest efficiency in operating, is also connected with the great Bell telephone system directly through the Telephone Company's central office, so that one may communicate by telephone with any part of the United States from a moving elevator in the Woolworth Building.

Although the Building is fire-proof throughout, in so far as engineering masters have been able to make it, and the possibility of fire occurring within its walls is extremely remote, nevertheless, every mechanical device has been provided to safeguard the lives and property of tenants should the "impossible" occur. A fire could not spread beyond the office in which it broke out because the walls are of stone or steel, the doors, trim, etc., also of steel, and the glass of heavy plate, wired. In fact, no inflammable material of any description was used in the construction of the Building. Every stairway is an enclosed fire-tower, and every elevator shaft is free from outside influences such as smoke, fire, heat and gases.

TWO NIGHT VIEWS OF THE
WOOLWORTH BUILDING

THREE TOWERS OF LOWER MANHATTAN
AT NIGHT

A powerful fire-pump forms part of the Building's thoroughly complete fire-fighting equipment. This pump, located in the sub-basement, is capable of delivering 500 gallons of water per minute at the fifty-eighth story against a head pressure of 820 feet, and on account of the protection thus afforded neighboring properties, the owners have, in some cases, been able to secure substantial reductions in their fire insurance premiums.

In most buildings the inside or court offices are usually quite dark and undesirable on account of the narrowness of the openings and the height and dingy character of their walls. Not so in the Woolworth Building. It has a great, wide court—nearly the width of an average city street, and, as the walls are of glazed white tile, much natural light is reflected into the court offices, making them practically as choice as those facing the streets. All offices in the entire Building, without exception, are especially wide, light, and well ventilated, and their appointments are of the very best.

For the convenience of tenants, a completely equipped Hospital Room has been established for female stenographers, clerks, and others, where they may receive first-aid treatment and simple remedies at the hands of a competent nurse or rest quietly from the mental or physical strain attendant upon their work. Quick relief is thus afforded and sometimes serious illness is prevented. Should any case be so serious as to require the attendance of a physician, one may be had within a few minutes. This room is maintained as part of the Building's general service for which no charge is made. Public Committee or Board Rooms are also available for tenants' use. These rooms are elaborately appointed, and may be engaged for limited periods at very reasonable rentals.

The public corridors throughout are spacious and well lighted and ventilated. They have flooring of polished marble terrazo and wainscot of selected Italian marble carried half-way up to the ceiling. Directories on every floor below the Tower enable one to locate his destination quickly upon alighting from the elevators. The toilet facilities are unique as regards the number of rooms assigned for that purpose and the elegance of their appointments. A toilet room for ladies and one for gentlemen will be found conveniently located on practically every floor of the entire Building. Their walls are lined with white carrara glass, the costliest, most sanitary, and most attractive wall treatment known for this purpose. The ceilings are of white enamel, and the floors of white flint tile. The fixtures, too, are the last word in modern design and construction. Without exception these rooms are all that the word "sanitary" implies.

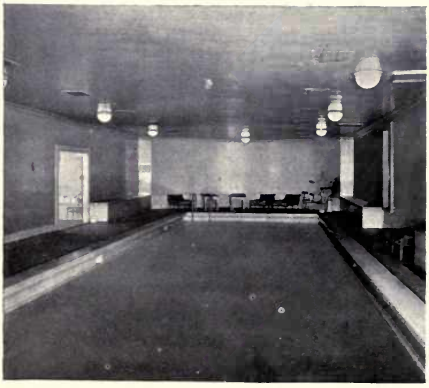
More than 70,000 pieces of mail are delivered to tenants of the Woolworth Building every business day, and from eight to ten letter-carriers are required to handle it. The tenants' outgoing mail matter is fully as voluminous and requires an additional force of handlers to convey it to the General Post Office. Four huge letter-boxes are placed in the main corridor, from which twenty-seven collections are made every twenty-four hours on week days. During business hours, the collections take place on an average of every thirty minutes,

DIRECTORS' ROOM

IRVING NATIONAL BANK

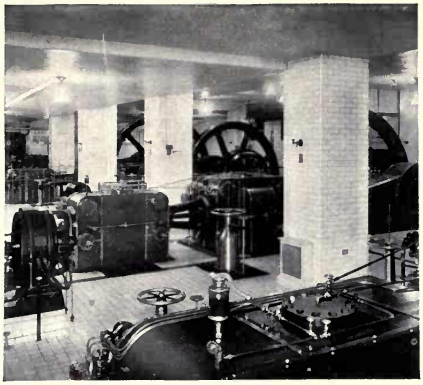
MAIN LOBBY

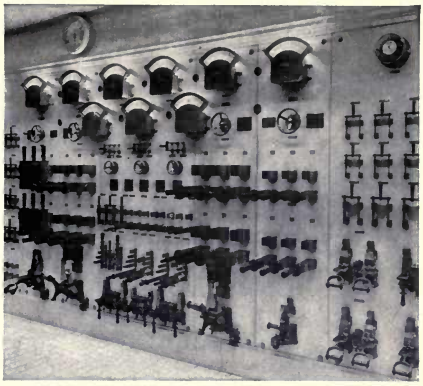
TWO VIEWS OF THE "POSTKELLER"



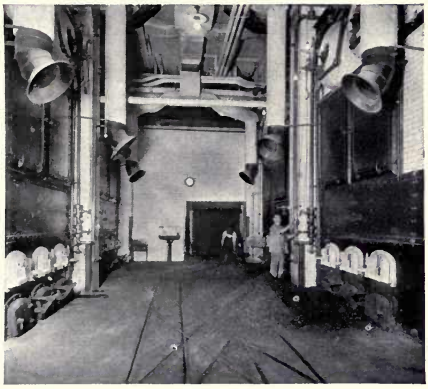
SWIMMING POOL AND TURKISH BATH

BARBER SHOP

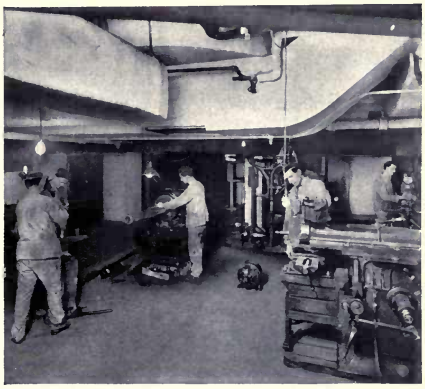




GENERATORS AND MAIN SWITCHBOARD IN THE ENGINE ROOM

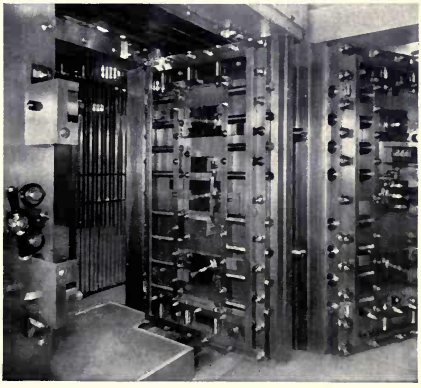


BOILER ROOM



ONE OF THE WORKSHOPS

EMERGENCY ROOM FOR TENANTS AND VISITORS



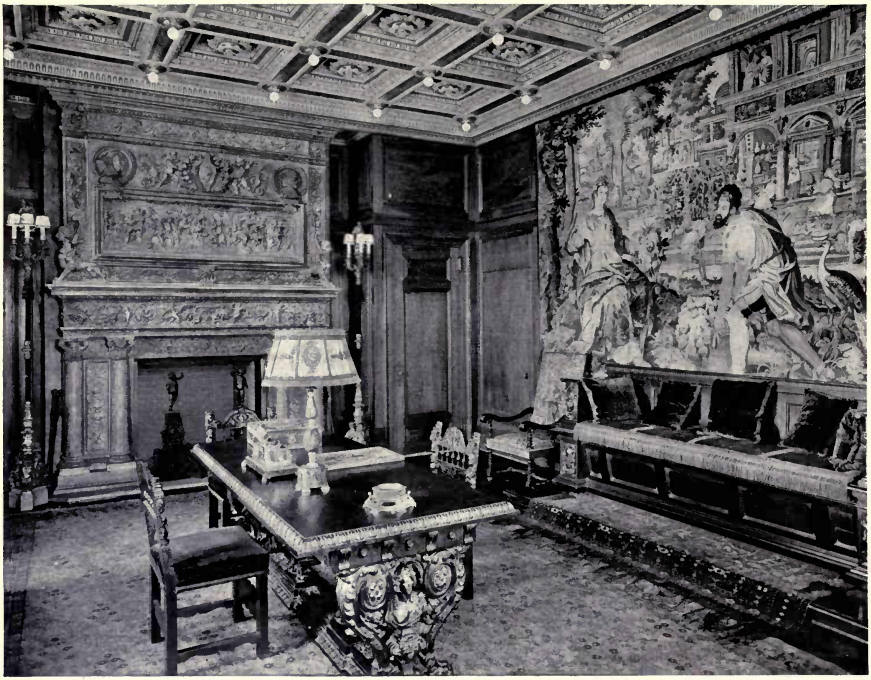
ENTRANCE TO THE SAFE DEPOSIT VAULT

LOOKING SOUTH FROM THE OBSERVATION GALLERY

LOOKING NORTH FROM THE
OBSERVATION GALLERY

LOOKING WEST FROM THE OBSERVATION GALLERY

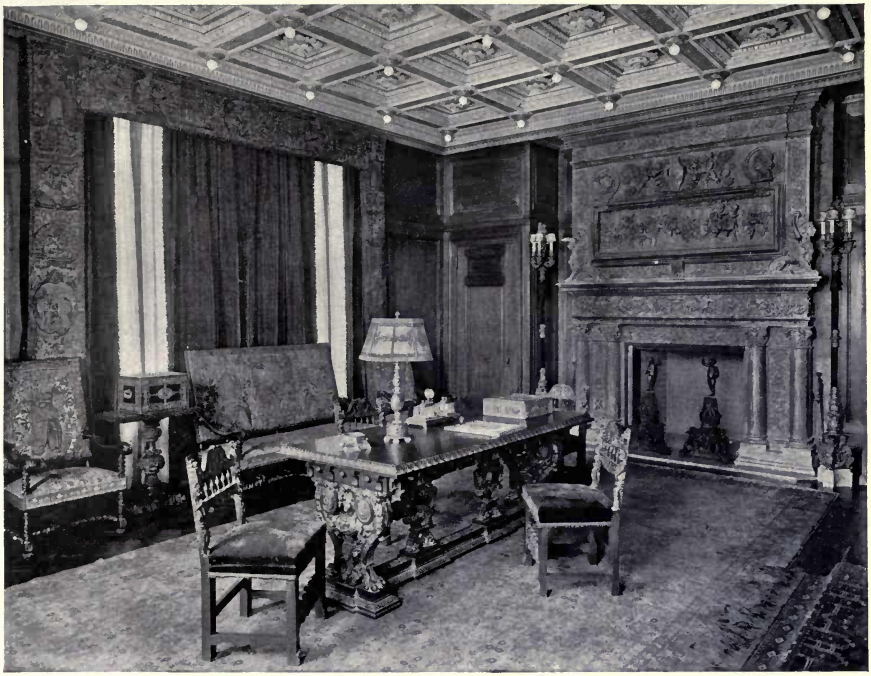
LOOKING EAST FROM THE
OBSERVATION GALLERY



MR. WOOLWORTH'S PRIVATE OFFICE ON THE 40TH FLOOR SHOWING FLEMISH RENAISSANCE TAPESTRY (WOVEN ABOUT 1650) AND ITALIAN RENAISSANCE MANTELPIECE CARVED IN STONE

and, for the convenience of tenants, four mail chutes, connected with the mail boxes mentioned, serve every floor of the Building. Thus, a tenant on any floor may place his mail in one of these chutes and have it taken to the Post Office within half an hour afterward. Eighteen hundred telephones are in service throughout the Building, a greater number than is used in a city of 30,000 inhabitants. The average daily traffic is 29,000 calls, totaling 8,700,000 messages per year.

Frequently visitors to the Observation Gallery and others ask interesting questions with regard to the means which have been devised to make a building of this height entirely safe before the elements. As a matter of general information it may be said that, regardless of its supreme height, the structure is quite as safe as the Rock of Gibraltar, and the following facts will probably be of interest to those who read them: The foundations for all columns are carried down to solid bed rock by means of concrete piers sunk by the pneumatic caisson process, which consists of sinking metal tubes of the size required for the finished piers. Some of these are 19 feet in diameter. In sinking these metal tubes water was encountered and the pneumatic process had to be resorted to, consisting of closing up the upper ends of the tubes by a system of air locks. The interiors were filled with air under pressure, equivalent to the water pressure outside, and this prevented the water from entering at



WEST SIDE OF MR. WOOLWORTH'S PRIVATE OFFICE OVERLOOKING THE HUDSON RIVER AND EASTERN NEW JERSEY

the bottom, thereby affording workmen access to the exterior so as to excavate and remove the soil. Upon reaching the solid rock the tube was gradually filled with concrete, the top removed and the filling completed, leaving solid concrete piers for the steel columns of the Building to rest upon.

The caissons under this Building average 110 feet long below the sidewalk, and there are 69 of these with a combined length of approximately 5,000 feet, all carried down to bed rock. The total load on the rock at the base of the caissons was assumed to be 24 tons per square foot. There is no possibility of the Building rocking in the slightest degree, because the dead load on any of the columns is greater than the maximum uplift due to wind pressure on the Building. The Building's weight above the caissons is estimated to be 223,000 tons, including allowance for wind pressure.

The wind pressure was carefully studied, and it may be safely stated that a hurricane, blowing at 200 miles per hour, would not damage the framework of this Building in any way. Winds of such velocity are, of course, unknown. It is also a fact that no wind ever observed in this latitude would have the slightest effect upon the Building. At the very top, where scientific observations have been made, no vibration whatever was detected. The Tower is braced to take care of wind strains by a system of portal braces like those used at the ends of bridges. These braces occur in all stories, so that wind

AN ENTRANCE TO THE
BROADWAY TRUST COMPANY

NORTH BALCONY OF THE
GRAND ARCADE

GRAND ARCADE FROM MAIN STAIRWAY LOOKING
TOWARD BROADWAY

ONE OF THE ELEVATORS TO THE OBSERVATION
GALLERY (HIGHEST-RISE ELEVATORS IN THE WORLD)

THE EMPIRE ROOM—EXECUTIVE OFFICE OF THE PRESIDENT OF
F. W. WOOLWORTH COMPANY

blowing at any floor level is transmitted through the braces to the floors below successively until it reaches the foundation. This form of bracing is unusual in building construction, but it was considered by far the best solution of the difficult engineering problem in hand.

The copper roofs on the Tower and on the main building are connected by means of copper cables with the Building's structural steelwork, thereby grounding the structure and producing a result similar to the ordinary lightning conductor. Thus, the Building is safe even during severe lightning storms.

No description of the Woolworth Building is complete without a word concerning that vitally important feature called SERVICE, a feature, perhaps, more important than all others to tenants. Every possible need of the tenant is anticipated and cared for promptly, courteously, efficiently. The smooth-running organization, planned and developed as it has been along departmental lines, as in a great railway system, has, for example, its Fire, Police, Cleaning, Repair and Maintenance Departments, on duty night and day, always, each working with rigid alertness and fidelity. The Building contains nearly 30 acres of floor space, yet this vast area is cleaned—yes, *and thoroughly* —every single day, but not during business hours when such work would disturb the tenants. The 5,000 or more windows throughout the Building are cleaned once every week and more often when storms make it necessary. The

work of the Night Watchmen, who make hourly patrols of the entire Building, and of the Police and Detective Forces, is especially important to tenants, because it insures the absolute security of their property during closed hours and prevents interruption and annoyance during business hours, of a kind commonly experienced in some office buildings.

Substantially all of the repair work—and this is a vast item—is executed by the Building's mechanical forces, which include, among others, the Electrical, Plumbing, Heating and Elevator Maintenance Departments, all operating coordinately and under well-trained heads. Even the tools required to perform special classes of work are made by the house mechanics, and the Building may be said to be self-contained. Absolute cooperation exists among all departments, and, to a man, the 300 odd employees know how to serve. They go about their work determined to satisfy and please every tenant from the largest to the smallest uniformly, knowing, as they do, that upon that altogether the success of the great institution depends.

The Woolworth Building has been called "A Cathedral of Commerce"—a monument to small things, but it is even more—it is the colossal and enduring gift to civilization of a true-born, patriotic American, Frank W. Woolworth, and it stands unique in the history of great buildings throughout the world in that it is without a mortgage or dollar of indebtedness. Mr. Woolworth paid for this gigantic structure from start to finish from his own resources, accumulated through his business sagacity in establishing an entirely new line of merchandising through retail stores handling only five and ten cent goods. This wonderful enterprise, starting from one small store in 1879, has grown to a $65,000,000 corporation, operating over 1,000 stores throughout the United States, Canada, and Great Britain, with combined sales exceeding $87,000,000 in 1916—the largest retail business in the world.

Thus the name Frank W. Woolworth has been indelibly inscribed throughout the length and breadth of our land and abroad, and the Woolworth Building, symbolizing, as it truly does, the crowning achievement of a career of usefulness toward mankind, will long herald the march of progress down through the corridors of time.

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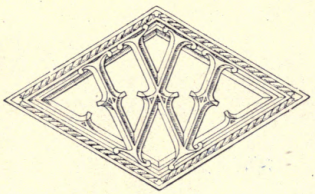

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